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produces agglutination, the person is either suffering or recovering from plague.

It must be added, however, that only a small number of plague patients and convalescents exhibit this reaction of agglutination.

W. HAVELBURG, M. D.

The so-called "spotted fever" of the Rocky Mountains—A new disease in Bitter Root Valley, Mont.

Surg. J. O. Cobb, of the U. S. Public Health and Marine-Hospital Service, was directed by Bureau telegram on June 23 to proceed to Missoula, Mont., in order to investigate an outbreak of the so-called "spotted fever" prevailing in that district. These orders were given as a result of information which was received from various sources that a new and strange disease prevailed in the Bitter Root Valley of Montana. The disease was said to be highly communicable, and, therefore, a matter of importance to the public health of the country.

Dr. Cobb's interesting report which follows has purposely been made brief and many interesting facts omitted because he found Dr. Louis B. Wilson and Dr. Wm. M. Chownning, representing the Montana State board of health, already on the field. These two scientists had, prior to Dr. Cobb's arrival, worked out many of the details concerning the cause of the disease and its method of transmission, which have since been published in The Journal of the American Medical Association (vol. 39, No. 3, p. 131). The report of Surgeon Cobb follows:

PORTLAND, OREG., July 1, 1902.

SIR : Complying with Bureau telegram of June 23, I proceeded to Missoula, Mont., to investigate an outbreak of so-called "spotted fever."

For a definite number of years (17) the disease has been known among the local practitioners of the Bitter Root Valley, and tradition reports from year to year back to the earliest settlements among the whites. So far as I could learn there have never been cases or fatalities from the disease among the Indians.

The disease has always been limited to the spring months, no case being reported later than July 20, and none earlier than 1 case on uncertain date in January. There is some doubt attached to the January case, which is supposed to have occurred several years ago. Usually the first cases appear in March, shortly after the first warm days. Every one with whom I talked is unanimous in the positive statement that the disease only occurs in the spring months, including, of course, the few warm days in March. In a few instances the disease has appeared in February, but in every case the month was very mild, having a number of warm days.

All clinical experience goes to show that the disease is not contagious or infectious. It is, therefore, without doubt, an inoculable disease, as an intra-corporeal parasite has been found constantly present in the blood of each examined case this year. The organism resembles very closely Theobald Smith's Texas cattle fever organism, and it is certainly reasonable to believe, from the knowledge at hand, that this disease is introduced in man in the same way and in like manner as in the Texas cattle fever organism, viz, by the tick.

August 15, 1902

During this spring there were more fatalities than usual in the locality infected and the matter was early brought before the State board of health. This board secured the services of Drs. Wilson and Chownning, bacteriologists of the University of Minnesota, to go to Missoula and work up the disease. These gentlemen have gone so far in their experimental work as to be able to show that an entirely new disease has been encountered, and one never before described.

Briefly and substantially, their investigations go to show that the disease is confined to the Bitter Root and Lolo valleys, covering an area of about 20 miles in width and 40 miles in length. Very queerly, too, they find that the disease is confined to one side of the valley, the west side. So far, I believe that no authenticated case has been contracted on the east side of the river.

Now, having found an intra-corporeal organism in the blood of their cases, the next step was to find the host, and here they were astonished to learn that it was a common belief among the people of the valley that the disease in certain localities was caused by the bite of the tick. Clinically, they found this idea correct, inasmuch as, positively, every patient gave history or showed evidence of being bitten by the tick. Even the early cases in March or the exceptional cases in February, it is claimed that on warm days the tick can be found and patients claimed that they were bitten. The evidence was further strengthened by the fact that in many, I think in nearly all, the place, where the tick adhered and bit, the skin, the site of inoculation, was followed by decided inflammatory reactions, not a few instances having been recorded where a large area sloughed out entirely.

As hundreds of persons are bitten with ticks throughout this portion of the State, and as a great many are bitten by ticks from this infected locality and comparatively few contract the disease, it was fair to presume that all ticks did not harbor the parasite. This naturally led them to the presumption that the host was not the tick, but some animal infested by ticks. If the infected animal were the horse, cow, deer, sheep, or other ranging animal, then one would expect to find the disease gradually spread over a wider area from year to year.

Not to go further into the details of the matter, they found that the gopher (which in this section is the ground squirrel) were infested with ticks, and it is well known that this animal will not cross water except under extraordinary circumstances. This being true, it would give the necessary explanation why the disease was confined to such a small locality and why its limitation seemed to be so clearly defined. The next step was to obtain a great number of these animals for examination. This part of their work is uncompleted, but they have found enough to make them believe that the gopher of this particular section has in some way become infected with this organism and that it has acquired or inherited immunity. An intra-corporeal organism has been found in the blood of some of the gophers from this locality, while the organism has not been observed in the blood of these animals obtained elsewhere or even from those just across a small river.

A further interesting observation is that the first cases follow closely the appearance of the spring crop of ticks and the disease subsides promptly upon the disappearance of the tick, which is usually about the first of July. This is a very strong point, for laying aside the difference in the clinical features of the diseases which have nothing in common with malaria, it seems nearly positive proof that the mosquito can be eliminated as a factor. For if it were the mosquito, one would naturally expect to find the disease increase and spread with the advance-

ment of the summer season—the mosquito season. However, all this has been carefully gone into by these gentlemen and will be published by them shortly in detail.

Clinically, the disease is very odd. There was only one remaining case, it being 30 miles up the Bitter Root Valley. He was in the ninth day of the disease and had the peculiar rash which the people for some time have named "spotted fever." I examined the heart and lungs, and there seemed to be no complications of these organs. Besides the bluish spotting of the skin, the conjunctivæ are markedly infected, the tongue moist but slightly coated, the face and extremities puffy and bloated, but the skin did not pit on pressure. This patient was not delirious, and to me seemed to have a fair chance of recovery, but I was much astonished on being informed by Dr. Brice, his physician, that so far all such cases this year had died, and that only 2 bad cases, with well-marked eruptive lesions, have been known to recover.

As Drs. Wilson's and Chownning's report is soon to appear with its very comprehensive details, all may look forward to a most interesting communication on this new disease.

It seems unnecessary to say that the fear of contagion and infection is altogether groundless, and the alarm caused by newspaper reports is unjustifiable.

Respectfully,

J. O. COBB,
Surgeon.

Inspection service at Eastport, Me.—Yellow fever on British bark Birnam Wood from Rio de Janerio.

EASTPORT, ME., August 7, 1902.

SIR: I beg to submit the following report of work done at this inspection station during the week ended Thursday, August 7, 1902:

Vessels inspected.

Date.	Vessel.	From—	For—	Crew.	Passengers.	
					For East- port.	In trans- it.
Aug. 1	Ss. H. F. Eaton.....	Calais, Me	Eastport.....	10	30	.....
Do....	Ss. Viking.....	St. Stephen, New Brunswick.	.....do	6	10	.....
Do....	Ss. Aurora.....	.....do	Eastport and Grand Manan, New Brunswick.	8	4	7
Do....	Ss. Penobscot.....	St. John, New Brunswick.	Portland and Boston.....	80	15	65
Do....	Ss. St. Croix.. .....	.....do	Eastport.....	70	.....	.....
Aug. 2	Ss. H. F. Eaton.....	Calais, Me .....	.....do	10	16	.....
Do....	Ss. State of Maine.....	Boston and Portland.	St. John, New Brunswick.	67	102	120
Do....	Ss. Aurora.....	St. Andrews, New Brunswick.	Eastport and Grand Manan, New Brunswick.	8	4	9
Aug. 4	Ss. H. F. Eaton.....	Calais, Me	Eastport.....	10	30	.....
Do....	Ss. State of Maine.....	St. John, New Brunswick.	Portland and Boston	67	9	35
Do....	H. M. S Curlew.....	.....do	Eastport.....	20	.....	.....
Aug. 5	Ss. H. F. Eaton.....	Calais, Me .....	.....do	10	50	.....
Do....	Ss. Viking.....	St. Stephen, New Brunswick.	.....do	6	23	.....
Do....	Ss. Aurora.....	St. John, New Brunswick.	Eastport and Grand Manan, New Brunswick.	8	5	9
Do....	Ss. Penobscot	Boston and Portland.	St. John, New Brunswick.	80	107	160
Aug. 6	Ss. H. F. Eaton.....	Calais, Me	Eastport.....	10	35	.....
Do....	Ss. Penobscot	St. John, New Brunswick.	Portland and Boston.....	80	45	65
Aug. 7	Ss. H. F. Eaton	Calais, Me	Eastport.....	10	50	.....
Do....	Ss. Aurora.....	St. Stephen, New Brunswick.	Eastport and Grand Manan, New Brunswick.	8	3	8
Do....	Ss. State of Maine....	Portland and Boston..	St. John, New Brunswick.	67	105	150